

## **Avian Oral Swab Collection: General Remarks**

The Virginia Interagency Arbovirus Task Force has agreed upon a new procedure for the submission of avian specimens to the DCLS beginning in April 2003. The new field collection procedure is designed to make specimen collection safer and more standardized. In addition, field collection of specimens using oral swabs will create a more simplified transport system from the LHD's to the DCLS for testing. Swab specimens do not require refrigeration after collection or during transport resulting in a more stable and cleaner specimen.

To ensure that safe and effective collection procedures are utilized, individuals responsible for avian specimen collection should be familiar with the DCLS field collection procedure and available [PowerPoint presentation](#). The VDH and DCLS will also provide a video presentation in proper oral swab field collection techniques. Because certain safety precautions should be used in collecting swabs from dead birds, it is best to conduct this activity away from public view. Swabbing should be conducted outdoors to prevent increased risk of transmission due to concentration of the virus indoors. Only crows and jays should be swabbed in the field. Due to their size and the hazards of their beaks and talons, raptor carcasses should be submitted to DCLS in their entirety.

The DCLS field procedure ([page 2](#)) is the recommendation of the Virginia Interagency Arbovirus Task Force and is based on best available scientific knowledge and consultation with numerous experts. However, if your health department has reservations about the protocol, additional safety measures can be added such as the use of an N95 respirator, goggles, safety glasses, or a face shield, and a disposable lab coat, or the entire carcass can be shipped to be processed by DCLS staff.

**Division of Consolidated Laboratory Services**  
**Avian Oral Swab Collection for the Detection of West Nile Virus: Field Procedure**

**Kit Contents**

- 1 ml swab transport solution (STS, in an O-ring sealed tube)
- 1 individually wrapped sterile dacron swab
- 1 pair of gloves
- 1 particulate filter mask
- 1 instruction sheet
- 1 laboratory address label
- 1 sample zip lock bag

**Kit Storage (prior to use)**

All kit components can be stored at room temperature.

**Site Selection**

Swabbing should be conducted out of public view in a remote or discrete outdoor location. To prevent concentration of virus and increased risk to the individual performing the procedure, indoor swabbing should only be done under a certified Class II biosafety cabinet with proper personal protective equipment.

**Swabbing Procedure**

1. Once a recently dead crow or jay (raptors should be submitted to DCLS as whole carcasses) is located in the field it must be identified by species and assigned a VDH ID #. The ID number should be the 3-digit FIPS code of the county or city where the bird was found, the accession number assigned by the county or city, and a two digit number for the year (e.g., 810-0101-03 would be the 101<sup>st</sup> bird reported from Virginia Beach in the year 2003).
2. Remove the biohazard zip lock bag containing the kit components from the large zip lock bag.
3. Glove hands. Grab the bottom of the large zip lock bag with your non-dominant hand and invert the bag over that hand so that you end up with the bag inside out over the non-dominant hand. Collect the bird into the bag by picking up the tail end of the bird and moving the top part of the bag over the bird, covering the bird completely. The beak of the bird should be close to the opening of the bag.
4. If you are in a public area, seal the bag and transport the bird to an appropriate location for swabbing.
5. Remove all components from the biohazard zip lock bag. Using a permanent marker, label the STS tube with the VDH ID # assigned to the bird.
6. Glove hands and don a particulate filter mask placing the white side against your mouth and the blue side facing outward.
7. Tear open the swab packaging on the handle end of the swab leaving the dacron end covered until needed.
8. Lay the bagged bird on the ground or other flat surface and open the corner of the bag that is closest to the beak of the bird.
9. **Perform this step inside the zip lock bag:** Position the opening of the bag away from your body, grab the neck/beak of the bird with your non-dominant hand from outside the bag and position the beak open.
10. Grasp the swab handle with your dominant hand and swab the inner beak, oral cavity, and throat. Release the swab handle and leave the swab in the oral cavity.
11. Open the STS tube.
12. Remove the swab from the oral cavity and place in the STS tube, making sure that the tip is touching the bottom. Snap the applicator stick and cap the STS tube.
13. Place the STS tube containing the swab specimen in the biohazard zip lock bag.
14. Gloves, swab handle, and mask can be placed in the bag with the bird.
15. Clean hands with an alcohol-based hand sanitizer or soap and water if available.
16. The carcasses and used collection supplies should be disposed of in a dumpster / landfill or incinerated.
17. A completed submission form should be placed in the outer pouch of the biohazard zip lock bag. Transport the sample to the LHD for DCLS courier service. The swab specimen(s) may remain at room temperature following collection and during transport to the laboratory.

Please contact the DCLS Molecular Biology Laboratory at (804) 648-4480 ext. 291 for special instructions or technical assistance.